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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,430	02/12/2004	Su-Hyung Eom	678-1171 (P10944)	4337

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EXAMINER	
TAYONG, HELENE E	
ART UNIT	PAPER NUMBER
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/777,430	EOM, SU-HYUNG	
	Examiner	Art Unit	
	Helene Tayong	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 February 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because improper language such as " comprise" lines 5 is used. Correction is required. See MPEP § 608.01(b).

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7-17 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Anantharaman et al.(US 2002/0093978 A1).

With regards to claim 1;

(a) Anantharaman et al. discloses classifying the data sequence into N unit data sequences having a predetermined bit number (pg. 2, [0028] lines 1-7) and inputting an n^{th} unit data sequence to be checked from among the N unit data sequences into a predetermined table as indices (fig. 4) (pg 2, [0029], lines 6); and

(b) Anantharaman et al. discloses outputting output data sequences from the table (fig. 4) in correspondence to the indices together with at least one attribute (pg. 3, [0032], lines 1-3), the output data sequences having dummy bits (interpreted as stuffed bits) which are alternatively inserted into the unit data sequences (pg. 3, lines [0032], lines 5-7), the at least one attribute indicating a number of the bit values which are sequentially continued starting from a most significant bit (MSB) of the output data sequence (pg. 3, [0039] lines 13-14), the indices including an attribute output from the table (fig. 4 and 5) with respect to an n-1^{th}unit data sequence (pg. 3, [0039], lines 8-10).

With regards to claim 2;

Anantharaman et al. discloses wherein the table (fig.4) stores the output data sequences having alternatively inserted dummy bits(interpreted as stuffed bits), values of the attributes corresponding to all possible unit data sequences, and a set of all values for which the attributes allow (pg.2, [0029], lines 1-1-6).

With regards to claim 3;

(a) Anantharaman et al. discloses forming a temporary output data sequence from the output data sequence for the n^{th} unit data sequence (pg. 2 –3, [0030], lines 9-15);

(b) Anantharaman et al. discloses classifying the temporary output data sequence into an output unit data sequence having a predetermined bit number (fig. 4) and into a remaining data sequence, wherein the temporary output data sequence includes a remaining data sequence for the n-1th unit data sequence (pg. 3, [0032], lines 1-7).

With regards to claim 4;

Anantharaman et al. discloses re-classifying the remaining data sequence into an output unit data sequence having the predetermined bit number and a new remaining data sequence, when the bit number of the remaining data sequence is greater than the predetermined bit number (fig. 5) (pg. 5,[0056], lines 1-11) .

With regards to claim 5;

(a) Anantharaman et al. discloses classifying a received data sequence into N unit data sequences having a predetermined bit number (pg. 2, [0028], lines 1-3); defining at least one attribute of an n-1 th unit data sequence from among the N unit data sequences, the at least one attribute indicating a number of the bit values which are sequentially continued starting from a most significant bit (MSB) of the corresponding unit data sequence (pg. 3, [0039], lines 13-14); and

(b) Anantharaman et al. discloses inputting attributes of an n th unit data sequence and the n-1 th unit data sequence into a table (fig. 2) (pg. 2, [0029], lines 1-7), and outputting attributes of the corresponding output data sequence and the n th unit data sequence (pg. 3, [0033], lines 1-6).

With regards to claim 7;

(a) Anantharaman et al. discloses forming a temporary output data sequence from the output data sequence for the n^{th} unit data sequence (pg. 2 –3, [0030], lines 9-15); and

(b) Anantharaman et al. discloses classifying the temporary output data sequence into an output unit data sequence constituted by the predetermined bit number and into a remaining data sequence (pg. 2, [0028], lines 1-3), wherein the temporary output data sequence includes a remaining data sequence for the $n-1^{th}$ unit data sequence (pg. 2 –3, [0030], lines 9-15).

With regards to claim 8;

Anantharaman et al. discloses re-classifying the remaining data sequence into an output unit data sequence having the predetermined bit number and a new remaining data sequence, when the bit number of the remaining data sequence is greater than the predetermined bit number (fig. 5) (pg. 5, [0056], lines 1-11) .

With regards to claim 9;

(a) Anantharaman et al. discloses classifying the data sequence into a plurality of unit data sequences having a predetermined bit number(pg. 2, [0028] lines 1-7), and sequentially inputting the unit data sequences into a predetermined table as indices (fig. 4) (pg 2, [0029], lines 6);

(b) Anantharaman et al. discloses outputting output data sequences from the table in correspondence to the indices(pg. 3, [0032], lines 1-3), the output data sequences having dummy bits which are alternatively inserted (pg. 3, lines [0032], lines 5-7),

(c) Anantharaman et al. discloses forming the data frame from the output data sequences, and attaching the flags to front and rear ends of the data frame, respectively (pg. 3, [0030], lines 9-15).

With regards to claim 10;

Anantharaman et al. discloses wherein the table stores (fig. 4) the output data sequences having alternatively inserted dummy bits in correspondence to all possible unit data sequences in order to prevent at least one data sequence having a same sequence as a sequence of the flag from being transmitted (pg. 3, [0039], lines 1-14).

With regards to claim 11;

Anantharaman et al. discloses wherein the sequence of the flag contains a bit sequence in which a predetermined value of the bit is sequentially continued up to a predetermined number (pg. 2, [0028], lines 1-3)

With regards to claim 12;

Anantharaman et al. discloses wherein the table stores (fig. 4) the number of the predetermined bit values which are sequentially continued starting from a most significant bit of the output data sequence as values of the attributes of each output data sequence (pg. 3, [0039], lines 13-14)

With regards to claim 13;

Anantharaman et al. discloses wherein the indices include the values of the attributes (fig. 4,pg. 2, [0029], lines 1-6)

With regards to claim 14;

(a) Anantharaman et al. discloses forming a temporary output data sequence from the output data sequence

(pg. 2 –3, [0030], lines 9-15);

(b) Anantharaman et al. discloses forming the temporary output data sequence into an output unit data sequence having a predetermined bit number and into a remaining data sequence (pg. 2 –3, [0030], lines 9-15); and

(c) Anantharaman et al. discloses connecting the remaining data sequence to a next output data sequence output sequentially, and forming a temporary output data sequence for the next output data sequence (pg. 3, [0031] ,lines 1-13).

With regards to claim 15;

Anantharaman et al. discloses re-forming the remaining data sequence into an output unit data sequence and a new remaining data sequence, when the bit number of the remaining data sequence is greater than the predetermined bit number (pg. 3, [0031], lines 1-13).

With regards to claim 16;

(a) Anantharaman et al. discloses classifying a received data sequence into a plurality of unit data sequences having a predetermined bit number (pg. 2, [0028], lines 1-7);

(b) Anantharaman et al. discloses sequentially inputting the unit data sequences into a predetermined table, and sequentially outputting the output data sequences from which the dummy bits are removed from the table (fig. 5) in correspondence to the input unit data sequences ((pg. 3, [0032], lines 1-3).

With regards to claim 17;

Anantharaman et al. discloses wherein the table stores (fig. 5) the output data sequences from which the dummy bits are removed in correspondence to all possible unit data sequences(pg. 4, [0047], lines 1-7).

With regards to claim 21;

(a) Anantharaman et al. discloses forming a temporary output data sequence from the output data sequences (pg. 2 –3, [0030], lines 9-15);

(b) Anantharaman et al. discloses forming the temporary output data sequence into an output unit data sequence having a predetermined bit number and into a remaining data sequence (pg. 2 –3, [0030], lines 9-15); and

(c) Anantharaman et al. discloses connecting the remaining data sequence to a next output data sequence output sequentially, and forming a temporary output data sequence for the next output data sequence (pg. 3, [0031] ,lines 1-13).

With regards to claim 22;

Anantharaman et al. discloses re-forming the remaining data sequence into an output unit data sequence and a new remaining data sequence, when the bit number of the remaining data sequence is greater than the predetermined bit number (fig. 5) (pg. 5, [0056], lines 1-11).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anantharaman et al.(US 2002/0093978 A1) in view of Quirk et al (US 5675617).

Anantharaman et al. discloses a method in figure 1 for synchronizing data frames, the method comprising the steps of:

With regards to claim 6;

Anantharaman et al. discloses all of the subject matter discussed above except for specifically teaching wherein the table stores the output data sequences in which alternatively inserted dummy bits are removed the corresponding attributes of all possible unit data sequences, and a set of values of the attributes.

However, Quirk et al. in the same field of invention teaches wherein the table stores the output data sequences in which alternatively inserted dummy bits are removed the corresponding attributes of all possible unit data sequences, and a set of values of the attributes (Table c,col.7, lines 40-53).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the steps of disclosed in step where in table store output data sequences alternatively inserted dummy bits are removed the corresponding attributes of all possible unit data sequences, and a set of values of the attributes in which to with the method disclosed in Quirk et al with those of Anantharaman et al. to avoid confusion with flag signal. The motivation to combine these would have been to distinguish regular flags used for detecting the frames from a bit stream that is transmitted. This will help resolve problems such as computer programs not to run on other platforms (computer

architecture and or operating system) other than the one for which they were originally written.

7. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anantharaman et al.(US 2002/0093978 A1) in view of Park et al.(US 6529528 B1).

With regards to claim 18;

8. Anantharaman et al. discloses all of the subject matter except for specifically teaching wherein the sequence of the flag contains a bit sequence in which a predetermined value of the bit is sequentially continued up to a predetermined number.

However, Park et al. in the same field of invention teaches a wherein the sequence of the flag contains a bit sequence in which a predetermined value of the bit is sequentially continued up to a predetermined number (fig. 2B) (col. 2, lines 37-45) to maintain compatibility.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to add the sequence of the flag contains a bit sequence of Park et al to that of Anantharaman et al. to avoid interference between the actual data frame and flag sequence. The motivation to combine these would have been to be able improve the efficiency of Anantharaman et al method of frame synchronization by checking for errors in the process of transmission and to be able to accurately retrieve all information transmitted.

With regards to claim 19;

Anantharaman et al. discloses wherein the table stores the number of the predetermined bit values which are sequentially continued starting from a most

significant bit of the output data sequence as values of attributes of each output data sequence (pg. 3, [0039], lines 13-14).

With regards to claim 20;

Anantharaman et al. discloses wherein the values of the attributes are included in indices of the table (fig. 4 and 5) (pg. 2, [0029], lines, 1-5).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pierre Dupuy (US 5687199) discloses a frame comprise a synchronization flag, synchronization bits and data bits.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Tayong whose telephone number is 571-270-1675. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lui Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Helene E. Tayong

3/1/07

SHUWANG LIU
SUPERVISORY PATENT EXAMINER